Van de Leur
dutch audio design

Manual 402

402 Class-D Dual Mono Power amplifier

English

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Introduction

Carefully read this manual before using the product. Use this manual to correctly setup your audio equipment. All the functions and abilities of this product will be described within the next pages.

Guarantee

All Van de Leur Audio products are built with extreme care. When encountering a problem with this product, read the troubleshooting pages to solve your problem. Contact your supplier for further support.

Van de Leur Audio products are sold with a five-year warranty. Warranty voids when the user has made changes to the product.

Safety

The amplifier complies to the directives 2006/95/EG and 2004/108/EG and has the CE marking.

Do not open the amplifier. The amplifier contains AC parts that may pose a threat to your health. Use the amplifier solely for indoor entertainment purposes.

Always connect the amplifier to a grounded electrical outlet. The amplifier is only suitable for use on a mains voltage of 230 volts/50 Hz. Use the provided power cord. Grounding the amplifier is safe and ensures ultimate audio experience.

Please switch off the amplifier when not used for an extended period of time. Use the switch on the rear panel.

Environmental warning

This product contains components that are harmful to the environment and components that are recyclable. When disposing of this product, pay attention to the local laws and guidelines.

Package contents

The package of the 402 amplifier contains:
- Van de Leur Audio 402 Class-D dual mono power amplifier
- Power cord
- Manual

Unboxing

Always check the packaging for external damage. In the event of damage, please contact your supplier. Open the box at the top. Do not use sharp tools to cut the box or tape as you might damage the product. Do not dispose of the box, as your product can only be shipped safe in it. Carefully lift the product out of the box.

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Installation

Check the amplifier for any visible damage. In the event of damage to the amplifier, contact your supplier. Make sure the amplifier is plugged into a 230 volts/50 Hz mains supply. Ensure that there is enough ventilation room. Avoid contact with liquids. Do not install the amplifier next to sources of electrical interference or heat.

First use

Connect the power amplifier to a source. We recommend the use of a Van de Leur Audio 002 pre-amplifier. Attach the source to one of the inputs: balanced (XLR) or unbalanced (RCA). Make sure the switch on the rear panel is set in the right position (XLR/RCA). Always use high quality cables for optimum sound quality.

Connect your loudspeaker to the silver terminals located on the rear panel. The use of banana/spade plugs is recommended. Pay attention to the polarity (+/-). Make sure there is a solid connection. Avoid the risk of shortage caused by connecting + directly to -. This may damage your amplifier.

Finally connect the power amplifier to a power source. Use the provided power cord. Make sure every connection is solid, and that your source has been switched on, then switch the power switch on the rear panel to position I. When done correctly, the switch on the front panel will glow red. Finally switch on the power amplifier by touching the power switch. The switch only works with bare hands/fingers. When switched on correctly, the red LED will be substituted by a blue LED.

Front panel

Use the switch on the front to switch the amplifier from standby to power. The LED inside of the switch will glow red or blue, according to the state of the amplifier (blue for power, red for standby). The switch only reacts to touch and cannot be pressed. Make sure you use your bare fingers as it reacts to human touch.

Rear panel

The power inlet, power switch, source input and loudspeaker connectors can be found on the rear panel of the amplifier.

The **power inlet** contains a fuse in the compartment underneath the inlet. This also contains a spare fuse. Only open this compartment after having fully switched of the amplifier. Only replace the fuse for a similar 6,8A SLOW fuse. When in need of replacing the fuse, please make sure that the source of blowing the fuse is known and solved.

The **power switch** is located next to the power inlet. Use this switch to completely power the amplifier off. We only recommend to use this switch when the amplifier is not used for an extended period of time.

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The **inputs** consist of balanced (XLR) or unbalanced (RCA) connections. Use the switch between the inputs to select the right input. When not selected correctly, there will be no audible sound. We recommend to only use the switch while having the amplifier turned off. Only one input can be used at once.

The **loudspeaker terminals** can be found on each side of the rear panel. These are fully silver plated output terminals. We recommend the use of banana- or spade-plugs. Make sure the connection is tight and safe. Avoid shortage caused by connecting + to -. This may result in serious damage to your amplifier.

Switching on or off

Please refrain from switching off the attached source, before switching off the power amplifier. The attached source might spike the signal up to a dangerous level when being switched off. This may result in damage to your power amplifier and loudspeaker. **Always switch off the power amplifier first.**

In the event of dangerous input signal in the power amplifier, the **security** switches the power amplifier off automatically. When this occurs, **fully** switch off all equipment, including the power amplifier. Make sure the source of the engaged security is neutralized and let the power amplifier remain switched off for five (5) minutes. After this procedure, your power amplifier should be operating normally.

The security ‘kick-in’ can be recognized by an audible ‘click-sound’, not being confused with the click heard when switching the amplifier on. If the amplifier remains in security-phase, please contact your supplier.

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Troubleshooting

No LED glow from front panel power switch.

The LED of the power switch located at the front panel doesn't illuminate.

- Make sure the power cord is connected properly to an active power source.
- The fuse is broken. Replace the fuse with the spare fuse located in the compartment underneath the power inlet. Make sure the amplifier is switched off and that the power cord has been removed. If the cause of the broken fuse is not clear, contact your supplier. (please check p. 4)

No audible sound

The power amplifier has been switched on, but there is no audible sound.

- Ensure the LED of the front power switch is illuminated blue. If red, touch the switch to switch the amplifier on. The LED should be illuminated blue.
- Ensure all the sources are switched on (pre-amplifier etc.) and are functioning correctly.
- Ensure the input switch on the rear panel has been set to the right input (XLR/RCA)
- The amplifier entered security mode (audible click, please check p. 5).

Interfering noise

When correctly installed, the amplifier should be quiet when not receiving audio signal. It can occur that audible interference or ground loops can be heard. These sound like hums, crackles or beeps.

- Check all the cables. Use high quality shielded cables and connect as advised by your supplier.
- Ensure ground connection. Always proper ground the amplifier.
- Remove sources of interference next to the equipment and cables.
- Avoid ground loops. They occur when connected devices do not use the same ground point. Try to detach unnecessary equipment.

Other issues and troubleshooting

Contact your supplier or Van de Leur Audio for all questions or problems related to troubleshooting. Check Vandeleuraudio.com for up to date contact information.

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Specifications Van de Leur Audio 402

Case	Full aluminum
Knobs	Touch (piezo) on/off switch
Connections back panel	Loudspeaker terminals (silver)
	RCA and XLR inputs (switched)
Guarantee	5 year guarantee

Technical specifications

Output power	2 x 400 watt @ 4ohm 2 x 240 watt @ 8ohm
Frequency response	10Hz – 50 kHz
Inputs	XLR & RCA (selectable)
THD	< 0.004%
Power supply	230V 50Hz
Weight	15,6 kg

See graphs on the next page for more specifications.

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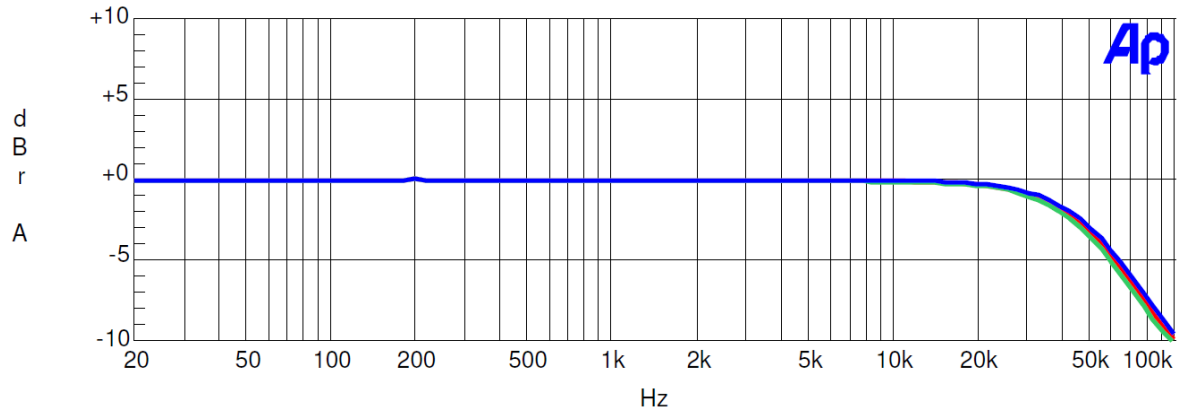
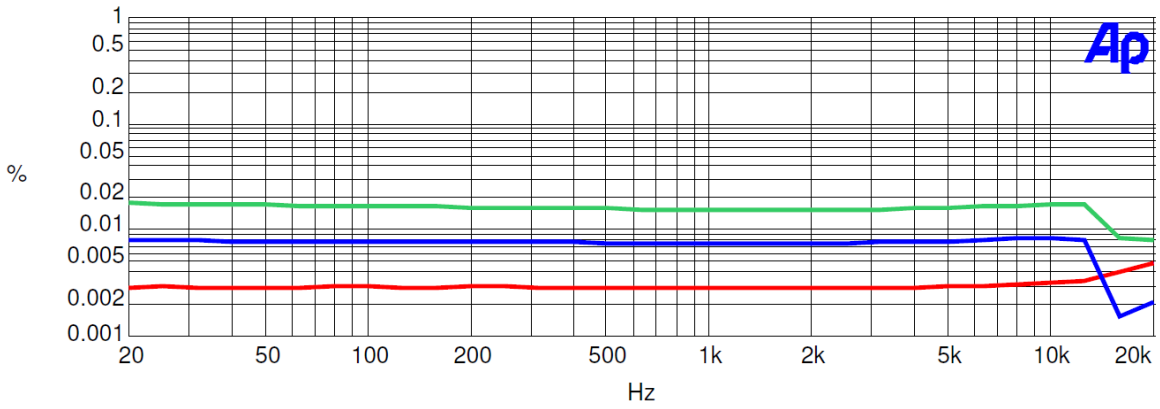
Frequency response @ 4 ohm, 8 ohm and open circuit



Total THD @ 8 ohm at output power 40, 10 and 1 watt (down to bottom)



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Appendix manual 402

Adjustable Damping Factor (dealer only)

The amplifier is equipped with an adjustable damping factor. This circuit is used to lower the damping factor and hereby adjusting the amplifier to the attached loudspeakers. The result is often experienced more musical, or ‘tube’ like.

Dealers and professionals are allowed to adjust the circuit to adapt the amplifier to the desired needs. The circuit board on the rear panel is where the adjustment can be achieved. The switch on the board switches between normal settings and low settings. The amplifier has been standardly set to low.

To switch the amplifier to regular settings, switch it to normal. The adjustment will be passed-by.

The amount of damping applied, can be adjusted by switching soldered resistors. Switch the resistors on both (left and right) circuit boards for a wanted value according to the table below. The resistor is indicated as ‘Adjust DF’ and is located on the top of the print. The resistor is raised above the print, for easy replacement.

Ask your dealer or contact Van de Leur Audio for advise on customizing the damping factor.

Resistor values put next to the achieved damping factor:

Resistor	Damping factor (relative)
4k7 (standard)	0.5
10k	1
22k	2
39k	4

Note: the lower the damping factor, the bigger the change between normal and low setting.

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